

WHAT IS CLAIMED IS:

1. A process for the preparation of cellulose acetate comprising:  
mercerizing cellulosic material derived from hardwood in a caustic mercerizing solution to produce mercerized hardwood cellulose;  
reacting the mercerized hardwood cellulose with an alkylene oxide hydroxyalkylating agent to a degree of substitution of the cellulose ranging from 0.04 to 0.15 to form a reactive mercerized hardwood cellulose, said degree of substitution being insufficient to render said mercerized hardwood cellulose appreciably soluble in water;  
recovering said reactive substantially water insoluble mercerized hardwood cellulose and acetylating it to form cellulose acetate.
2. The process of claim 1 in which the cellulosic material derived from hardwood is mercerized with a caustic solution of about 8 to 20 weight percent.
3. The process of claim 2 in which the caustic solution is about 10 to 16 weight percent.
4. The process of claim 2 in which the reacting of the mercerized hardwood cellulose with an alkylene oxide is carried out in the presence of a caustic solution of the same concentration as the mercerizing solution.
5. The process of claim 1 in which the cellulosic material is hardwood cellulosic pulp.
6. The process of claim 1 in which the degree of alkylene oxide substitution of the cellulose is from 0.05 to 0.09 moles of alkylene oxide per anhydroglucose unit in said cellulose material.

7. The process of claim 1 in which the hydroxyalkylating agent is propylene oxide and the degree of substitution of propylene oxide per anhydroglucose unit is from 0.06 to 0.08.